Small Business Innovation Research/Small Business Tech Transfer

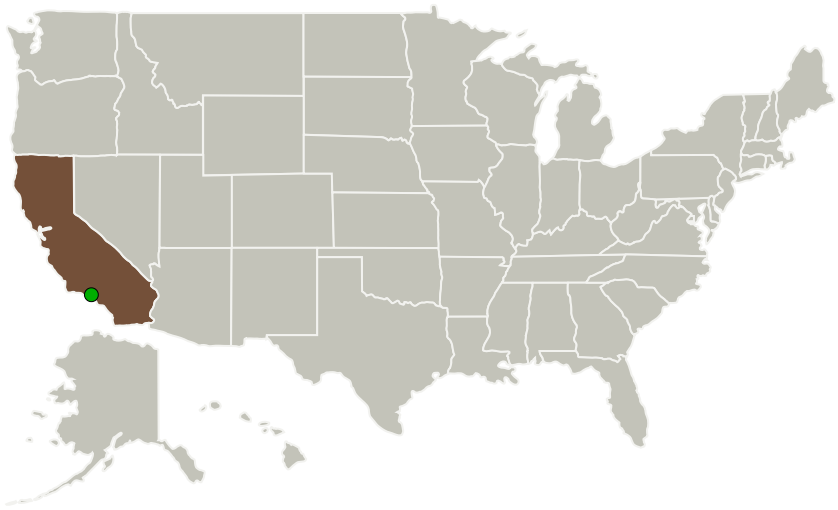
Second Generation Low Cost Cryocooler Electronics (LCCE-2), Phase II

Completed Technology Project (2014 - 2016)

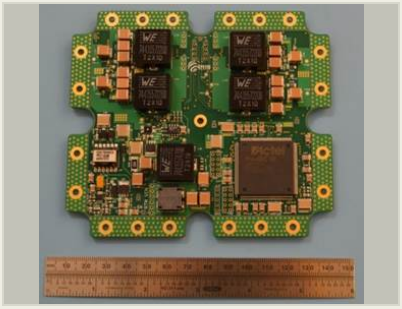
Project Introduction

The LCCE-2 Program builds off the successes of the USAF "Low Cost Cryocooler Electronics for Space Missions" Program, extending the performance of the developed LCCE to include active vibration cancellation and advanced input power bus circuitry. The former is important for imaging payloads because the exported vibration from the cryocooler can be a major contributor to the overall image jitter. The latter will provide the ability to safely operate the cryocooler system off of virtually any spacecraft power bus from all perspectives, meaning that the cryocooler system will be protected from transient effects from a "dirty bus," and the cryocooler will not impart back onto the power bus large amplitude current ripple that would otherwise affect the performance of other devices on the bus.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Iris Technology Corporation	Lead Organization	Industry	Irvine, California
Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California



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Primary U.S. Work Locations
California

Project Transitions

April 2014: Project Start

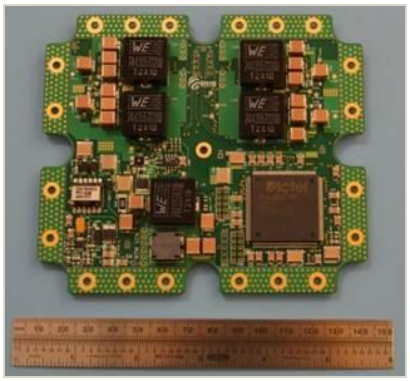
April 2016: Closed out

Closeout Summary: Second Generation Low Cost Cryocooler Electronics (LCCE-2), Phase II Project Image

Closeout Documentation:

- Final Summary Chart Image*(https://techport.nasa.gov/file/137651)*

Images



Briefing Chart Image
Second Generation Low Cost Cryocooler Electronics (LCCE-2), Phase II
(https://techport.nasa.gov/image/136433)

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
Iris Technology Corporation

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

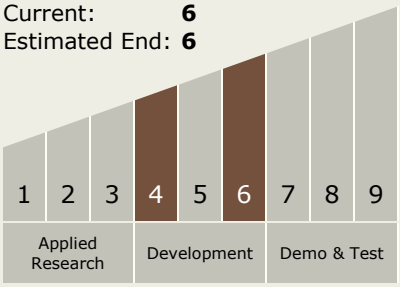
Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
Jim Wold

Technology Maturity (TRL)

Start: **4**
Current: **6**
Estimated End: **6**



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Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.6 Cryogenic / Thermal

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System